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Hurry-up methods cut into Soviet oil-field production

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Poor planning that dates back to the 1950s has caused the severe problems now coming to light in Soviet oil fields.

The Soviets, world's largest oil producers, have rapidly increased output since World War II by using "forced draft" methods. But those methods, which include injection of massive amounts of water into oil bearing formations, have caused serious damage to some of their finest fields, according to new information released by the U.S. Central Intelligence Agency (CIA).

Soviet oil output, as a result, will drop suddenly and sharply within the next four years, the CIA predicts. The drop will send economic shock waves through both the Soviet and international oil markets.

Soviet oil problems were first brought to light by the CIA in a recent declassified report. In hearings before a House subcommittee

April 25, CIA director Stansfield Turner elaborated on some of the reasons behind those dire predictions.

The Soviet quandary

Admiral Turner explained that the Soviets' problems involve several factors. Among them:

1. Existing wells have been overproduced. Large amounts of water have been injected into the ground to increase pressure. The result was short-term growth in output. But in the long run, less oil will be recovered, and that falling-off now has begun.

2. Soviet oilmen have concentrated on drilling new wells into old fields, rather than searching for new fields. This increased short-term production but has done nothing to expand known reserves.

3. Prime regions for new exploration lie in Siberia — in areas of harsh climate far, far away from major centers of population and industry.

Emphasis on short-term goals has brought

about rapid increases in Soviet production — from less than 3 million barrels a day in 1960 to 10.5 million barrels a day at present.

During the same period, the United States grew from about 7 million barrels a day to 9.7 million barrels a day.

Soviet production will continue growing. The current five-year plan calls for an increase to 12.8 million barrels a day by 1980, and it looks as if the Russians will come close to that goal.

After that, however, it's all downhill, the CIA says.

No later than 1983 Soviet output will begin trending down, and as early as 1985 the United States could again be outproducing the Soviets, even though American oil production isn't expected to increase very much.

Two areas produced

Prior to 1970 the bulk of Soviet oil output came from two major areas: the area around the Caspian Sea and the Urals-Volga region about 500 miles east of Moscow.

In the 1950s many of the wells in the Urals-Volga region stopped flowing naturally and needed pumping. But pumps were scarce. Production was in danger of falling. To head off a production crisis, Soviet oilmen adopted the practice of injecting water into the ground along the edges of the fields. This forced the remaining oil under pressure toward the wells and forestalled the need to pump.

However, this method, especially when using high pressure, leaves pockets of oil underground that could be recovered with more patient methods. Also, when pumps are used, as they eventually must be, much of the water must be raised along with the oil.

Like the U.S., Soviet planners are turning to coal and nuclear energy as alternatives to oil. The Soviets also have large reserves of natural gas, which also could substitute for oil.

CIA estimates proven Soviet oil reserves at 30 billion to 35 billion barrels, about the same as the United States. The Soviets also have extensive unproven reserves, the CIA notes, in the Arctic, eastern Siberia, and in offshore areas — all very difficult to exploit.